

## General

### Guideline Title

Healthy lifestyles.

### Bibliographic Source(s)

Kottke T, Wilkinson J, Baechler C, Danner C, Erickson K, O'Connor P, Sanford M, Straub R. Healthy lifestyles. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2016 Jan. 58 p. [152 references]

### Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Kottke T, Baechler C, Canterbury M, Danner C, Erickson K, Hayes R, Marshall M, O'Connor P, Sanford M, Schloenleber M, Shimotsu S, Straub R, Wilkinson J. Healthy lifestyles. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2013 May. 76 p. [145 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

## Recommendations

### Major Recommendations

Note from the National Guideline Clearinghouse (NGC) and the Institute for Clinical Systems Improvement (ICSI): The recommendations for the healthy lifestyles are presented in the form of a table with a list of evidence-based recommendations accompanied by detailed annotations.

Quality of evidence (Low Quality, Moderate Quality, and High Quality) and strength of recommendation (Weak or Strong) ratings are defined at the end of the "Major Recommendations" field.

#### Physical Activity

Recommendation: Consider prescribing a pedometer for individuals who are trying to increase their level of activity. (Quality of Evidence: Moderate; Strength of Recommendation: Strong)

- Benefit: Pedometers have been shown to be effective in helping individuals sustain walking programs. They are also among the most cost-effective interventions that increase physical activity.
- Harm: Walking may be associated with muscle soreness and fatigue. Orthopedic injuries may result from falls or collisions with cars or bicycles.
- Benefit-Harms Assessment: The benefit that walking has shown to provide and its cost saving outweigh the difficulty in achieving behavior modification and the low risk of musculoskeletal injury.

- Relevant Resources: Kang et al. 2009; Bravata et al., 2007.

Recommendation: Consider referring elderly individuals who have insufficient levels of physical activity to a community program. (Quality of Evidence: High; Strength of Recommendation: Strong)

- Benefit: Community programs have been shown to increase levels of physical activity in the elderly. They are also among the most cost-effective interventions that increase physical activity.
- Harm: Walking may be associated with muscle soreness and fatigue. Orthopedic injuries may result from falls or collisions with cars or bicycles.
- Benefit-Harms Assessment: The benefit that community physical activity programs provide outweigh the difficulty in achieving behavior modification and the low risk of musculoskeletal injury.
- Relevant Resources: March et al., 2015

## Tobacco

Recommendation: Consider offering behavioral and/or pharmacologic interventions to patients who smoke. Given its superior effectiveness, the combination of pharmacotherapy supported by behavioral interventions should be provided if acceptable to the patient. (Quality of Evidence: High; Strength of Recommendation: Strong)

- Benefit: Smoking cessation, or even decreased tobacco use, as well as avoidance of secondhand smoke in non-smokers markedly decreases the risk of several different chronic diseases, particularly heart disease and chronic obstructive pulmonary disease (COPD).
- Harm: Behavioral interventions may be difficult and challenging to maintain. Bupropion sustained release (SR) and varenicline, as well as other various types of nicotine replacement therapy (NRT), all have the potential for side effects. Clinicians should read the product insert, and consider adverse reactions and contraindications prior to prescribing any medication.
- Benefit-Harms Assessment: The benefits of decreased tobacco use and avoidance of secondhand smoke far outweigh the potential harms of the various interventions.
- Relevant Resources: Patnode et al., 2015; U.S. Preventive Services Task Force (USPSTF), 2015; U.S. Department of Health and Human Services, 2008.

Recommendation: There is insufficient evidence to make a recommendation regarding electronic cigarettes (e-cigarettes). E-cigarettes may be as effective as other types of NRT, but they may also have unrecognized harms; the potential benefits cannot currently be shown to outweigh the potential risks. (Quality of Evidence: Insufficient; Strength of Recommendation: N/A)

- Benefit: E-cigarettes may be an effective method of helping individuals quit smoking.
- Harm: The long-term safety of e-cigarettes have not been proven. Certain flavorings, when heated, have been shown to form compounds with known pulmonary toxicity, including diacetyl, which can cause irreversible bronchiolitis obliterans.
- Benefit-Harms Assessment: The potential benefits cannot currently be shown to outweigh the potential risks.
- Relevant Resources: Ebbert, Agunwamba, & Rutten, 2015; Leventhal et al., 2015; USPSTF, 2015; McRobbie et al., 2014; Orr & Asal, 2014.

## Alcohol

Recommendation: Consider offering a brief behavioral intervention for individuals who screen positive on a validated tool for risky/hazardous drinking. (Quality of Evidence: High; Strength of Recommendation: Strong)

- Benefit: Brief interventions have been shown in multiple studies to reduce alcohol consumption.
- Harm: The main harm is using time in a patient visit that could be dedicated to other medical concerns.
- Benefit-Harms Assessment: The potential benefits of reduced alcohol consumption outweigh the potential risk of mismanaging clinical time with the patient.
- Relevant Resources: Alvarez-Bueno et al., 2015; USPSTF, 2013; Jonas et al., 2012; Bertholet et al., 2005.

## Nutrition

Recommendation: Consider advising motivated patients who are not at goal to increase their consumption of fruits and vegetables each day. (Quality of Evidence: Moderate; Strength of Recommendation: Strong)

- Benefit: Increase in fruit and vegetable consumption (which results in more fiber consumption) has been linked to reduced mortality from cancers, cardiovascular diseases, and strong correlation between weight management and fruit and vegetable intakes.
- Harm: Possible financial constraints associated with purchasing additional fruit and vegetable choices.

- Benefit-Harms Assessment: Long-term benefits and possible health care savings outweigh the initial food purchase costs.
- Relevant Resources: Oyeboode et al., 2014; Wang et al., 2014; Bellavia et al., 2013.

Recommendation: Consider prescribing a Mediterranean-style\* or the Dietary Approaches to Stop Hypertension (DASH)\*\* dietary pattern for individuals wanting to improve their nutrition status. (Quality of Evidence: Moderate; Strength of Recommendation: Strong)

\*Mediterranean-style diet consists of an abundant amount of vegetables, legumes and whole grains; moderate red meat intakes with seafood and chicken selections when animal protein is consumed; and usage of olive oil and nuts as primary fat sources.

\*\*DASH diet consists of a flexible eating plan that includes a large amount of fruit and vegetable choices, low-fat dairy options, whole grains, very lean animal protein choices and frequent consumption of legumes and nuts.

- Benefit: The Mediterranean dietary patterns have been associated with decreased mortality from stroke and cardiovascular disease, and reduced inflammation as well as some slower cognitive decline.
- Harm: High consumption of fish may be difficult because of taste preferences, allergies or availability. Increased fruit and vegetable consumption could cause financial constraints.
- Benefit-Harms Assessment: Long-term health benefits and potential for prevention of long-term diseases outweigh the harms. Options are also available for individuals who cannot consume fish/seafood.
- Relevant Resources: Harmon et al., 2015; Koloverou et al., 2016; Estruch et al., 2013; Kastorini et al., 2011; Sofi et al., 2010; Féart et al., 2009.

Recommendation: Consider recommending self-monitoring (food journals, phone applications, tracking Web sites, advanced meal planning) for obese and overweight patients. (Quality of Evidence: High; Strength of Recommendation: Strong)

- Benefit: Consistent tracking of intakes has been linked with increased fiber from fruit and vegetable consumption, reduction of body weight and overall improvement of self-awareness in relation to healthy habits. *While trials have been done in obese patients, the work group feels this recommendation may apply to any patient wanting to change dietary behavior.*
- Harm: Limited harms associated with self-monitoring.
- Benefit-Harms Assessment: Benefits of tracking far outweigh any harms.
- Relevant Resources: Lyzwinski, 2014; Liefers & Hanning, 2012; Acharya et al., 2011; Burke et al., 2011.

### Healthy Thinking

Recommendation: Consider positive psychology interventions for patients interested in increasing their healthy mental habits. (Quality of Evidence: Moderate; Strength of Recommendation: Weak)

- Benefit: Interventions that focus on gratitude, kindness and appreciation (e.g., taking stock at the end of every day and finding three good things that happened and why they did, thanking people when they help, and making a point of practicing acts of kindness) have evidence of benefit. Positive psychology interventions (PPIs) are a low-cost, non-pharmacological interventions that have been shown to have positive impact on psychological well-being and resilience.
- Harm: Potential harms of PPIs might include disappointment on the part of individuals if energy expended in these activities was not rewarded by improvements in general mood or well-being.
- Benefit-Harms Assessment: The benefits of PPIs appear to outweigh any associated risks of this practice.
- Relevant Resources: Ouwenel, Le Blanc, & Schaufeli, 2014; Bolier et al., 2013; Gander et al., 2013; Sin & Lyubomirsky, 2009; Emmons & McCullough, 2003.

### Definitions

Quality of Evidence and Strength of Recommendations

Category	Quality Definitions	Strong Recommendation	Weak Recommendation
<b>High Quality Evidence</b>	Further research is very unlikely to change confidence in the estimate of effect.	The work group is confident that the desirable effects of adhering to this recommendation outweigh the undesirable effects. This is a strong recommendation for or against. This applies to most patients.	The work group recognizes that the evidence, though of high quality, shows a balance between estimates of harms and benefits. The best action will depend on local circumstances, patient values or preferences.
<b>Moderate Quality</b>	Further research is likely to have an important impact	The work group is confident that the benefits outweigh the risks, but	The work group recognizes that there is a balance between harms and benefit, based on moderate quality

Evidence Category	Quality Definitions	Strong Recommendation	Weak Recommendation
	on confidence in the estimate of effect and may change the estimate.	recognizes that the evidence has limitations. Further evidence may impact this recommendation. This is a recommendation that likely applies to most patients.	evidence, or that there is uncertainty about the estimates of the harms and benefits of the proposed intervention that may be affected by new evidence. Alternative approaches will likely be better for some patients under some circumstances.
<b>Low Quality Evidence</b>	Further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change the estimate or any estimate of effect is very uncertain.	The work group feels that the evidence consistently indicates the benefit of this action outweighs the harms. This recommendation might change when higher quality evidence becomes available.	The work group recognizes that there is significant uncertainty about the best estimates of benefits and harms. Very weak recommendation, other alternatives may be equally reasonable.

## Clinical Algorithm(s)

None provided

## Scope

## Disease/Condition(s)

- General health and well-being
- Preventable chronic diseases, particularly:
  - Heart disease
  - Stroke
  - Cancer
  - Diabetes
  - Depression

## Guideline Category

Counseling

Evaluation

Management

Prevention

Risk Assessment

Screening

## Clinical Specialty

Cardiology

Endocrinology

Family Practice

Internal Medicine

Nutrition

Preventive Medicine

Psychiatry

Psychology

## Intended Users

Advanced Practice Nurses

Allied Health Personnel

Dietitians

Health Care Providers

Health Plans

Hospitals

Managed Care Organizations

Nurses

Physician Assistants

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

Public Health Departments

Social Workers

Substance Use Disorders Treatment Providers

Utilization Management

## Guideline Objective(s)

- To summarize evidence-based best practices, which can be used to assess, advise, seek patient agreement, and assist patients as they work towards healthy lifestyle behaviors (lifestyles related to physical activity, tobacco, alcohol, nutrition, healthy thinking, and sleep)
- To present evidence-based interventions that clinicians can provide to their patients to improve rates of healthy behaviors
- To provide a framework for health care delivery systems to design and organize themselves around evidence-based best practices as well as collaborate with other stakeholders to support patients

## Target Population

Adults greater than 18 years of age

Note: While many of the interventions and concepts presented in this guideline are important for adolescents and children, the evidence for how to implement them is not yet fully developed and beyond the scope of the current guideline.

## Interventions and Practices Considered

1. Increased physical activity
  - Providing pedometer
  - Referring elderly to a community program
2. Decreased tobacco use and exposure
  - Behavioral and pharmacologic interventions

3. Decreased hazardous and harmful drinking/alcohol use (brief behavioral interventions)
4. Improved nutrition
  - Increased fruit and vegetable consumption
  - Prescribing a Mediterranean-style or the Dietary Approaches to Stop Hypertension (DASH) diets
  - Self-monitoring of food consumption
5. Healthy thinking (positive psychology interventions)
6. Healthy sleep

## Major Outcomes Considered

- Sensitivity and specificity of assessment tools
- Efficacy of clinical interventions for improving health outcomes
- Lifestyle behavior changes (increased physical activity, abstinence from smoking, cognitive performance, changes in diet, weight loss, self-monitoring, adherence)
- All-cause, cancer, and cardiovascular disease mortality
- Rate of major cardiovascular events (myocardial infarction, stroke, or death from cardiovascular causes)

## Methodology

### Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

### Description of Methods Used to Collect/Select the Evidence

#### Literature Search

A consistent and defined literature search and review is used in the development and revision of Institute for Clinical Systems Improvement (ICSI) guidelines. Two literature searches were conducted for this guideline. The searches were conducted in PubMed.

The first search included systematic reviews and meta-analyses from January 2008 through February 2015. The search was limited to adults over 18 years of age. The search excluded animal studies and non-English language studies. The terms included healthy lifestyles, patient activation, employer/worksites initiatives, physical and social environment, health assessments, health education programs, worksite physical activity programs, healthy food choices, readiness for change, lifestyle-related screening, motivational interviewing, physical activity, nutrition, tobacco cessation, hazardous drinking, harmful drinking, alcohol abuse/dependence, substance use, positive thinking, positive psychology, sleep hygiene, self-management, pedometer, sugar-sweetened drinks, dietary changes/behaviors, telephone-based counseling, computer-tailored education, brief interventions for healthy behaviors, tobacco telephone quit lines, electronic cigarettes (e-cigarettes), brief alcohol interventions, brief tobacco cessation interventions, brief interventions for primary care, personalized feedback intervention, problem drinking, school-based community education, individually adapted behavior changes, built environment and community-based prevention activities.

The second search included randomized controlled trials and observational studies from January 2008 through April 2015. The search was limited to adults over 18 years of age. The search excluded animal studies and non-English language studies. The terms included positive psychology, positive thinking, sleep habits and sleep hygiene.

In addition to the literature searches, articles were obtained by work group members and ICSI staff. Those vetted by the work group were included in the guideline when appropriate.

### Number of Source Documents

244 articles were identified from initial two literature searches; 152 articles from all sources were included as references, 30 of which support formal recommendations.

See the "Study Selection Flowchart" companion document (see the Availability of Companion Documents" field) for the flow of studies through the selection process.

## Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

## Rating Scheme for the Strength of the Evidence

### Quality of Evidence and Strength of Recommendations

Category	Quality Definitions	Strong Recommendation	Weak Recommendation
<b>High Quality Evidence</b>	Further research is very unlikely to change confidence in the estimate of effect.	The work group is confident that the desirable effects of adhering to this recommendation outweigh the undesirable effects. This is a strong recommendation for or against. This applies to most patients.	The work group recognizes that the evidence, though of high quality, shows a balance between estimates of harms and benefits. The best action will depend on local circumstances, patient values or preferences.
<b>Moderate Quality Evidence</b>	Further research is likely to have an important impact on confidence in the estimate of effect and may change the estimate.	The work group is confident that the benefits outweigh the risks, but recognizes that the evidence has limitations. Further evidence may impact this recommendation. This is a recommendation that likely applies to most patients.	The work group recognizes that there is a balance between harms and benefit, based on moderate quality evidence, or that there is uncertainty about the estimates of the harms and benefits of the proposed intervention that may be affected by new evidence. Alternative approaches will likely be better for some patients under some circumstances.
<b>Low Quality Evidence</b>	Further research is very likely to have an important impact on confidence in the estimate of effect and is likely to change the estimate or any estimate of effect is very uncertain.	The work group feels that the evidence consistently indicates the benefit of this action outweighs the harms. This recommendation might change when higher quality evidence becomes available.	The work group recognizes that there is significant uncertainty about the best estimates of benefits and harms. Very weak recommendation, other alternatives may be equally reasonable.

## Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

## Description of the Methods Used to Analyze the Evidence

Evidence is reviewed using Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology. Evidence is reviewed for quality utilizing explicit and comprehensive criteria for downgrading and upgrading quality of evidence ratings.

## Methods Used to Formulate the Recommendations

Expert Consensus

## Description of Methods Used to Formulate the Recommendations

### Document Development and Revision Process

The development process is based on a number of long-proven approaches and is continually being revised based on changing community

standards. The Institute for Clinical Systems Improvement (ICSI) staff, in consultation with the work group and a medical librarian, conduct a literature search to identify systematic reviews, randomized clinical trials, meta-analysis, other guidelines, regulatory statements and other pertinent literature. This literature is evaluated based on the GRADE methodology by work group members. When needed, an outside methodologist is consulted.

The work group uses this information to develop or revise clinical flows and algorithms, write recommendations, and identify gaps in the literature. The work group gives consideration to the importance of many issues as they develop the guideline. These considerations include the systems of care in our community and how resources vary, the balance between benefits and harms of interventions, patient and community values, the autonomy of clinicians and patients and more. All decisions made by the work group are done using a consensus process.

ICSI's medical group members and sponsors review each guideline as part of the revision process. They provide comment on the scientific content, recommendations and implementation strategies. This feedback is used by and responded to by the work group as part of their revision work. Final review and approval of the guideline is done by ICSI's Committee on Evidence-Based Practice. This committee is made up of practicing clinicians and nurses, drawn from ICSI member medical groups.

#### Implementation Recommendations and Measures

These are provided to assist medical groups and others to implement the recommendations in the guidelines. Where possible, implementation strategies are included that have been formally evaluated and tested. Measures are included that may be used for quality improvement as well as for outcome reporting. When available, regulatory or publicly reported measures are included.

#### Document Revision Cycle

Scientific documents are revised as indicated by changes in clinical practice and literature. ICSI staff monitors major peer-reviewed journals for any pertinent evidence that would affect a particular guideline and recommendation.

## Rating Scheme for the Strength of the Recommendations

See the "Rating Scheme for the Strength of the Evidence" field.

## Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

## Method of Guideline Validation

External Peer Review

Internal Peer Review

## Description of Method of Guideline Validation

#### Public Comment

The Institute for Clinical Systems Improvement (ICSI) makes a draft of the guideline available to the public on the ICSI Web site. The public is invited to comment in an effort to get feedback prior to its finalization. All comments will be reviewed by the ICSI facilitator and work group members when needed. ICSI work group may or may not make changes to the guideline based on public comment responses.

#### Document Approval

Each document is approved by the Committee for Evidence-Based Practice (CEBP).

The committee will review and approve each guideline/protocol, based on the following criteria:

- The aim(s) of the document is clearly and specifically described.
- The need for and importance of the document is clearly stated.



- The work group included individuals from all relevant professional groups and had the needed expertise.
- Patient views and preferences were sought and included.
- The work group has responded to all feedback and criticisms reasonably.
- Potential conflicts of interest were disclosed and do not detract from the quality of the document.
- Systematic methods were used to search for the evidence to assure completeness and currency.
- Health benefits, side effects, risks and patient preferences have been considered in formulating recommendations.
- The link between the recommendation and supporting evidence is clear.
- Where the evidence has not been well established, recommendations based on community practice or expert opinion are clearly identified.
- Recommendations are specific and unambiguous.
- Different options for clinical management are clearly presented.
- Clinical highlights and recommendations are easily identifiable.
- Implementation recommendations identify key strategies for *health care systems* to support implementation of the document.
- The document is supported with practical and useful tools to ease *clinician* implementation.
- Where local resource availability may vary, alternative recommendations are clear.
- Suggested measures are clear and useful for quality/process improvement efforts.

Once the document has been approved, it is posted on the ICSI Web site and released to members for use.

## Evidence Supporting the Recommendations

### References Supporting the Recommendations

Acharya SD, Elci OU, Sereika SM, Styn MA, Burke LE. Using a Personal Digital Assistant for Self-Monitoring Influences Diet Quality in Comparison to a Standard Paper Record among Overweight/Obese Adults. *J Am Diet Assoc.* April 2011;111(4):583-588. [PubMed](#)

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Jonas DE, Garbutt JC, Brown JM, Anick HR, Brownley KA, Council CL, Viera AJ, Wilkins TM, Schwartz CJ, Richmond ER, Yeatts J, Swinson Evans T, Wood SD, Harris RP. Screening, behavioral counseling, and referral in primary care to reduce alcohol misuse (Prepared by the RTI International  University of North Carolina Evidence based Practice Center under Contract No. 290-2007-10056-I). Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2012 Jul. 382 p. (Comparative effectiveness review; no. 64).

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## Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

See the "Major Recommendations" field for potential benefits of each recommendation.

### Potential Harms

See the "Major Recommendations" field for potential harms of each recommendation.

## Qualifying Statements

### Qualifying Statements

- The information contained in this Institute for Clinical Systems Improvement (ICSI) Health Care Guideline is intended primarily for health

professionals and other expert audiences.

- This ICSI Health Care Guideline should not be construed as medical advice or medical opinion related to any specific facts or circumstances. Patients and families are urged to consult a health care professional regarding their own situation and any specific medical questions they may have. In addition, they should seek assistance from a health care professional in interpreting this ICSI Health Care Guideline and applying it in their individual case.
- This ICSI Health Care Guideline is designed to assist clinicians by providing an analytical framework for the evaluation and treatment of patients, and is not intended either to replace a clinician's judgment or to establish a protocol for all patients with a particular condition.

## Implementation of the Guideline

### Description of Implementation Strategy

#### Implementation Recommendations

Prior to implementation, it is important to consider current organizational infrastructure that address the following:

- System and process design
- Training and education
- Culture and the need to shift values, beliefs and behaviors of the organization

The following system changes were identified by the guideline work group as examples to incorporate in support of the implementation of this guideline.

- Develop a plan for educating all clinicians and staff about the organizational goals for the promotion of healthy lifestyles and their role in delivering effective team-based care.
- Develop a process for obtaining height and weight and then calculating a body mass index on patients.
- Develop scripting and brief counseling that promotes a healthy lifestyle and that can be utilized by all members of the health care team.
- Develop decision support processes in electronic medical records to support clinicians and staff in delivering specific components of the guideline.
- Seek leadership support for the implementation of an internal worksite wellness program in order to "lead by example."
- Build a collaborative relationship between health care clinicians and employer leadership to support healthy lifestyles. Create communication processes to share initiatives such as wellness programs, health assessments, educational opportunities and other support programs.
- Place education materials that focus on healthy lifestyle throughout the facility to include but not be limited to posters, pamphlets, videos, Web sites, support groups, and promotion of health assessments by informing individuals about the benefits and subsequent assistance with adopting and maintaining healthy lifestyles.
- Build relationships between clinic/medical group leadership and community leaders learn about what kinds of wellness program(s) they provide or would like to provide for the community.

### Implementation Tools

Chart Documentation/Checklists/Forms

Quick Reference Guides/Physician Guides

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

## Institute of Medicine (IOM) National Healthcare Quality Report Categories

### IOM Care Need

Staying Healthy

## IOM Domain

Effectiveness

Patient-centeredness

## Identifying Information and Availability

### Bibliographic Source(s)

Kottke T, Wilkinson J, Baechler C, Danner C, Erickson K, O'Connor P, Sanford M, Straub R. Healthy lifestyles. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2016 Jan. 58 p. [152 references]

### Adaptation

Not applicable: The guideline was not adapted from another source.

### Date Released

2016 Jan

### Guideline Developer(s)

Institute for Clinical Systems Improvement - Nonprofit Organization

### Guideline Developer Comment

The Institute for Clinical Systems Improvement (ICSI) is comprised of nearly 50 medical group and hospital members representing 9,000 physicians in Minnesota and surrounding areas, and is sponsored by three nonprofit health plans. For a list of sponsors and participating organizations, see the [ICSI Web site](#) .

### Source(s) of Funding

- The Institute for Clinical Systems Improvement (ICSI) provided the funding for this guideline revision. ICSI is a not-for-profit quality improvement organization based in Bloomington, Minnesota. ICSI's work is funded by the annual dues of the member medical groups and three sponsoring health plans in Minnesota. Individuals on the work group are not paid by ICSI but are supported by their medical group for this work. The only exception to this, patient and public members of a work group, are provided with a small stipend to cover meeting attendance.
- ICSI facilitates and coordinates the guideline development and revision process. ICSI, member medical groups, and sponsoring health plans review and provide feedback, but do not have editorial control over the work group. All recommendations are based on the work group's independent evaluation of the evidence.

### Guideline Committee

Committee on Evidence-Based Practice

## Composition of Group That Authored the Guideline

*Work Group Members:* Thomas E. Kottke, MD, MSPH (*Work Group Leader*) (HealthPartners Medical Group and Regions Hospital) (Cardiology); John Wilkinson, MD (*Work Group Leader*) (Mayo Clinic) (Family Medicine); Courtney Baechler, MD, MS (Allina Medical Clinic) (Cardiology); Patrick O'Connor, MD, MPH (HealthPartners Medical Group and Regions Hospital) (Family Medicine); Rebecca Straub, RD, LD (HealthPartners Medical Group and Regions Hospital) (Dietician); Kristin Erickson, MS, APHN-BC, RN (Otter Tail County Public Health) (Public Health); Martha Sanford, MD (Stillwater Medical Group) (General Internist); Christine Danner, PhD, LP (University of Minnesota Clinicians) (Psychology); Jodie Dvorkin, MD MPH (Institute for Clinical Systems Improvement [ICSI] Staff) (Project Manager, Health Care Consultant); Audrey Hansen (ICSI Staff) (Project Manager, Health Care Consultant)

## Financial Disclosures/Conflicts of Interest

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Where there are work group members with identified potential conflicts, these are disclosed and discussed at the initial work group meeting. These members are expected to recuse themselves from related discussions or authorship of related recommendations, as directed by the Conflict of Interest committee or requested by the work group.

The complete ICSI policy regarding Conflicts of Interest is available at the [ICSI Web site](#) .

### Disclosure of Potential Conflicts of Interest

Courtney Jordan Baechler, MD, MS (Work Group Member)  
Vice-President of Penny George Institute for Health and Healing  
Medical Director of Healthy Communities Partnership  
Medical Director of Cardiac Preventive Services, United Heart and Vascular Center Allina Health  
National, Regional, Local Committee Affiliations: None  
Guideline-Related Activities: None  
Research Grants: None  
Financial/Non-Financial Conflicts of Interest: None

Christine Danner, PhD, LP (Work Group Member)  
Behavioral Health Coordinator, University of Minnesota Physicians  
National, Regional, Local Committee Affiliations: UMP CSU Board of Governors  
Guideline-Related Activities: None  
Research Grants: None  
Financial/Non-Financial Conflicts of Interest: None

Kristin Erickson, MS, APHN-BC, RN (Work Group Member)  
HealthCare Intervention Coordinator, PartnerSHIP 4 Health and Otter Tail County Public Health  
National, Regional, Local Committee Affiliations: MN Omaha System Users Group Steering Committee Member, SOPHE, ANA, MDH committees, Minnesota Community Measurement Adult Healthy Lifestyles work group member  
Guideline-Related Activities: PartnerSHIP 4 Health and the Statewide Health Improvement Program  
Research Grants: Clinical Translation Science Institute (CTSI) Award through the University of MN  
Financial/Non-Financial Conflicts of Interest: None

Thomas Kottke, MD, MSPH (Work Group Leader)  
Medical Director, Population Health; Cardiologist, HealthPartners Medical Group and Regions Hospital  
National, Regional, Local Committee Affiliations: None  
Guideline-Related Activities: ICSI Lipid Management Guideline  
Research Grants: None



Other: Consultant to the Veteran Affairs Evidence-Based Synthesis Program, evaluating benefits and harms of the Mediterranean diet

Patrick O'Connor, MD, MPH (Work Group Member)

Senior Clinical Investigator; family medicine and geriatrics, HealthPartners Medical Group and Regions Hospital

National, Regional, Local Committee Affiliations: None

Guideline-Related Activities: ICSI Diagnosis and Treatment of Hypertension, ICSI Lipid Management Guideline, ICSI Prevention and Diagnosis of Obesity Guideline, ICSI Childhood Obesity Guideline, American Diabetes Association Guidelines

Research Grants: NIH grants related to cardiovascular disease and diabetes as well as decisions for pediatric acute abdominal pain

Patient: Software on disease simulation algorithms

Rebecca Straub, RD, LD (Work Group Member)

Clinical Dietitian, HealthPartners Medical Group and Regions Hospital

National, Regional, Local Committee Affiliations: None

Guideline-Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Martha Sanford, MD (Work Group Member)

Medical Director of Quality, Stillwater Medical Group

National, Regional, Local Committee Affiliations: Board membership for Lakeview System and Health

Partners Quality Board

Guideline-Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

John Wilkinson, MD (Work Group Leader)

Consultant Department of Family Medicine, Mayo Health System

National, Regional, Local Committee Affiliations: None

Guideline-Related Activities: ICSI Preventive Services Guideline

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

## Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Kottke T, Baechler C, Canterbury M, Danner C, Erickson K, Hayes R, Marshall M, O'Connor P, Sanford M, Schloenleber M, Shimotsu S, Straub R, Wilkinson J. Healthy lifestyles. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2013 May. 76 p. [145 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

## Guideline Availability

Available for purchase from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#) . Also available to ICSI members for free at the [ICSI Web site](#)  and to Minnesota health care organizations free by request at the [ICSI Web site](#) .

## Availability of Companion Documents

The following companions are provided to those who access the guideline (see the "Guideline Availability" field):

- Healthy lifestyles. Executive summary. Bloomington (MN): Institute for Clinical Systems Improvement; 2016 Jan. 2 p.
- Healthy lifestyles. Evidence table. Bloomington (MN): Institute for Clinical Systems Improvement; 2016 Jan. 3 p.
- Healthy lifestyles. Study selection flow chart. Bloomington (MN): Institute for Clinical Systems Improvement; 2016 Jan. 1 p.

- Scientific document overview. Bloomington (MN): Institute for Clinical Systems Improvement; 2016 Feb 22. 4 p.

Additionally, the following are available in the appendices of the original guideline document:

- Healthy Lifestyle Behaviors Survey
- ICSI Shared Decision-Making Model

## Patient Resources

None available

## NGC Status

This NGC summary was completed by ECRI Institute on May 21, 2008. This summary was updated by ECRI Institute on December 24, 2009, November 11, 2010, and September 1, 2011. This summary was updated by ECRI Institute on August 26, 2013. This summary was updated by ECRI Institute on September 13, 2016. The updated information was verified by the guideline developer on December 13, 2016.

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